




ERN Emergency Responder Note (U) Ammonium Nitrate

(U) **Ammonium Nitrate (AN)** - A commercially available nitrate salt—typically used as an agricultural fertilizer—with explosive properties on its own. Ammonium nitrate is commonly used as an explosive precursor chemical (EPC); when combined with other EPCs, it can create a powerful secondary explosive.

(U) **NOTE:** This product is provided for awareness and information purposes only. ALWAYS follow your individual office standard operating procedures (SOPs) when encountering suspected IED-related materials.

(U) IDENTIFICATION

-  Tertiary Explosive
-  Irritant
-  White Prills, Crystalline Solid, or Powder



(U) AN QUICKLOOK

EXPLOSIVE PROPERTIES
In pure form, AN is classified as an oxidizer. Large masses of AN exposed to extreme temperatures, such as fire conditions, and confinement may detonate. AN in the absence of added fuel is very insensitive. Accidental initiation of pure AN would likely result in an incomplete detonation. High shock energy, such as exposure to a booster, would be needed to produce an intentional complete detonation.

BINARY EXPLOSIVE MIXTURES
Since AN is a strong oxidizing agent, it is widely used as an EPC to create stronger explosives or used as one part of a binary explosive. Two of the most common binary mixtures used are ammonium nitrate fuel oil (ANFO) and ammonium nitrate aluminum powder (AN/AL). Some AN mixtures retain their insensitivity and require a booster to detonate. Threat actors gravitate toward AN mixtures that only require a blasting cap to initiate them.

i (U) AN AT A GLANCE

MATERIAL TYPE

Oxidizer and Irritant

Oxidizer – Provides the oxygen necessary to sustain an explosion.

Irritant – Causes a reversible inflammatory effect on living tissue by chemical action at the site of contact.

(U) COMMERCIAL SOURCES

- AN is a component of commercial [exploding target material](#).
- Chemical manufacturers sell porous, prilled AN to the mining industry for use in explosives.
- Fertilizers containing AN can be purchased commercially.
- Cold packs can contain 40–150 grams of AN.
- Homemade AN can be synthesized using nitric acid and ammonia.

(U) SAFETY PRECAUTIONS

- Never subject suspected explosive materials to sources of **heat, shock, or friction**, especially when dry.
- Bulk AN exposed to extreme conditions, such as fire and shock, may sympathetically detonate.
- Avoid handling handle AN without **proper safety equipment**—gloves, eye protection, and clothing to prevent skin exposure. AN can irritate exposed skin and other body parts, e.g., eyes.
- Call your Public Safety Bomb Squad/Law Enforcement or Explosive Ordnance Disposal (EOD) unit if illicit use of AN is suspected.